Amendments to the Specification:

Please replace the paragraph beginning at page 1, paragraph [0001] with the following paragraph:

This application is a continuation of U.S. patent application Serial No. 10/016,250, filed October 30, 2001, now U.S. Patent No. 6,709,407, incorporated herein by reference.

Please replace the paragraph beginning at page 2, paragraph [0005] with the following paragraph:

The present invention is a method and apparatus for audio stimulation of a fetus in utero. The fetal stimulator of the present invention produces fetal auditory stimulation by direct conversion of ultrasound energy to audible sound waves. Hence the fetal stimulator of the present invention ~~can produce and,~~ can be used to stimulate the fetus in a very specific region.

Please replace the paragraph beginning at page 2, paragraph [0006] with the following paragraph:

In the present invention, a focused ultrasound transducer is driven by an amplitude-modulated signal to provide localized, directed energy to the fetus. An RF generator provides a carrier signal at the ultrasound frequency, between 1 and 10 MHz, and an audio generator provides ~~a modulation~~ an audio signal. An amplitude modulator modules the carrier signal with the audio signal to produce a modulated signal. The resultant modulated signal is used to drive the ultrasound transducer. The transducer, which is positioned on the abdomen of

the mother, produces a single focused beam which can be aimed at the fetal head, the ear, or other selected location.

Please replace the paragraph beginning at page 7, paragraph [0028] with the following paragraph:

Referring now to Figure 4 a second embodiment of a monitoring device is shown. In this embodiment the event tracker or monitoring device comprises a low power ultrasound Doppler fetal monitor 60 coupled to a fetal monitor probe 62 which is positioned on or coupled to the abdomen 22 of the mother. In this application, the ultrasound frequency of the probe 62 can be different from that of the ultrasound transducer 20, and the beam of the monitor probe 62 is preferably less focused than that of the ultrasound transducer 20, so it can detect fetal motion within a wide field of view. The Doppler monitor 60 further includes an event recorder 61 which records both fetal motion and each application of ultrasound introduced to the fetal ear, as indicated. Events can be recorded on a paper chart or stored in a digital memory associated with the event recorder 61. The user can therefore evaluate fetal motion resulting from each stimulation applied to the fetal head or ear. The Doppler monitor 60 can be selectively activated by a switch 64.

Please replace the paragraph beginning at page 8, paragraph [0030] with the following paragraph:

The monitoring device 70 comprises a downmixer 72 and associated receiving transducer 78, which receives reflected ultrasound signals 79 from the fetal head 24. The ultrasound transducer 20 and receiving transducer 78 are located in proximity to each other and are each directed at the same region of the head 24 of the fetus. Furthermore, the center

frequency receiving transducer 78 is selected to be substantially the same as that of the ultrasound transducer 70. The mixer circuit 72 receives an amplitude modulated signal from the amplitude modulator 16, and a reflected signal from the receiving transducer 78, and downmixes these two signals. The output of the mixer circuit 72 is coupled to a low pass filter 74 which receives and filters the down-mixed signal to detect a Doppler shift in the frequency of the reflected ultrasound field indicative of whether fetal motion has occurred. From the low pass filter this signal is passed to an audio-video monitor 76 which produces a signal indicative of the Doppler shift described above. This unit can display the Doppler shift by a video (CRT) monitor, or can use an audio device such as a speaker. In this application, the monitoring device 70 can detect motion when the switch 71 is in the On or Off position. However, because the Doppler shift is different when the switch 71 is at On or Off position, the resultant signals can be differentiated.

Please replace the paragraph beginning at page 9, paragraph [0031] with the following paragraph:

Referring now to Figure 6 a fourth embodiment of a fetal audio stimulator 10 and associated monitoring device 80 is shown. In this application the transducer 20 is coupled to a first end of an arm 81 and the receiving transducer 86 is coupled to a second end of the arm 81. Each of the ultrasound transducer 20 and receiving transducer 86 are pivotally coupled to the arm 81 via pivoting members 82 and 84 which allow the transducers to be directed at a specific portion of the fetus. The receiving transducer 86 is coupled to a Doppler fetal monitor 88 and associated earphone 90 which is used to locate the heart 83 of the fetus while the transducer 20 is directed at the head of the fetus as described above.

Please replace the paragraph beginning at page 10, paragraph [0033] with the following paragraph:

The length of the arm 81 is approximately equal to the typical distance from the fetal heart 83 to its head. To operate this device, the physician first searches for the fetal heart by aiming the receiving transducer 86 at the fetus and receiving a response from the fetal monitor 88, for example through a set of earphones 90. Once the fetal heart has been identified by the fetal monitor 88, the physician orients the arm 81 in the direction of fetal head. Then, the ultrasound transducer 20 is oriented at an angle selected such that the distance between the focal points of the receiving transducer 86 and ultrasound transducer 20 is approximately equal to the heart-to-ear distance of an average fetus, at the age of the fetus being tested. Referring now to Figure 7 given the length of the arm 81 (l1) the focal length of the receiving transducer 86 (d1), and the focal length of the ultrasound transducer 20 (d2), the distance between the fetal heart and fetal head (l2) can be calculated using simple geometry, thereby allowing a physician or other user to calculate and track the position of the fetal ear for purposes of applying a hearing or other test. Once the transducers are adjusted for the fetus, therefore fetal movement is tracked by the fetal heart monitor, and consequently the position of fetal ear can be tracked.